

B020415(020)

**B. Tech. (Fourth Semester) Examination,
April-May 2022**

A)CTE (New Course)

(Civil Engineering Branch)

ENGINEERING GEOLOGY

Paper : (BT3020)

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions. Part (a) of each question is compulsory carry 4 marks. Solve any two from part (b), (c) and (d) of each question carry 8 marks.

Unit-I

1. (a) The ozone layer is located in :
 - (i) the troposphere
 - (ii) the stratosphere

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- (iii) the ionosphere
- (iv) the exosphere
- (b) Explain the constitution and properties of Mantle and core of earth as explicitly as possible.
- (c) Distinguish between the following :
 - (i) Colour and streak of minerals
 - (ii) Isomerism and polymorphism
 - (iii) Ore forming minerals with examples
- (d) Describe role of geological investigations in engineering practice.

Unit-II

- 2. (a) Define Moho's scale of hardness.
- (b) Explain the difference giving examples :
 - (i) Colour and Lustre
 - (ii) Uniaxial and Biaxial Minerals
- (c) Write the physical (megascopic) properties of silica, graphite, asbestos and feldspar.
- (d) What are the uses of hematite, iron pyrites, magnetite, chalcopyrite in civil works? Explain each of them.

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Unit-III

- 3. (a) Where are pegmatite deposits found?
- (b) What causes ripple marks in sandstone? Explain in detail.
- (c) Write petrological notes on :
 - (i) Basalt
 - (ii) Dolerite
 - (iii) Syenite
 - (iv) Trachyte
- (d) What is shell and coralline limestones? Discuss them with examples and their uses.

Unit-IV

- 4. (a) Define engineering geology and importance in civil engineering.
- (b) Describe the various types of faults occur in rocks with neat sketch.
- (c) Define fold. And give classification of fold.
- (d) Write short notes on :

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- (i) Angular unconformity and disconformity
- (ii) Dip and Strike
- (iii) Types of joints rock

Unit-V

5. (a) What are the effects of soil creep?
- (b) Describe the causes of landslide and suggest the preventive measure of it.
- (c) Explain geological hazards and its mitigation.
- (d) Give a brief account of various geological consideration in design of constructed facilities and infrastructure.